This is a quick example of how to use one joystick to control two motors used in a tank style drive. The code below has already been inserted into the default code for you. Download it from the Documentation page of our website.

The steps below explain how to manually insert the code into your program.

Step 1: Declare the variables in the 'Declare Variable' Section. Below is an example:

```
'========== in DECLARE VARIABLES section ======================

PWM1       VAR byte   'define variable for use in Serout command
PWM2       VAR byte   'define variable for use in Serout command
```

Step 2: Add the following in the main program:

```
'========== in Main Program section ============================

PWM1 = (((2000 + p1_y - p1_x + 127) Min 2000 Max 2254) - 2000)
PWM2 = (((2000 + p1_y + p1_x - 127) Min 2000 Max 2254) - 2000)
```

Step 3: Finally, place PWM1 and PWM2 in the Serout command respectfully.

```
Serout USERCPU, OUTBAUD,
[255,255,PWM1,relayA,PWM2,relayB,p3_y,p4_y,p1_x,p2_x,p3_x,p4_x,p1
_wheel,p2_wheel,p3_wheel,p4_wheel,127,127,127,127]
```

Additional Information:

Y-axis controls speed.
X-axis turns.
PWM1 - Left motor.
PWM2 - Right motor.

Tip: PBASIC stores numeric values as positive integers. Byte variables have a value range of 0-255. Word variables have a value range of 0-65535. When performing a calculation that would ordinarily result in a negative number, it will instead wrap around to a very high number, because it knows of nothing less than 0. The example code above shows one possible way to get around this limitation by adding 2000, doing a MIN 2000, and then subtracting 2000 at the end.

Figure 1.0 on the next page shows the resultant outputs from PWM1 and PWM2.

Copy the code Here

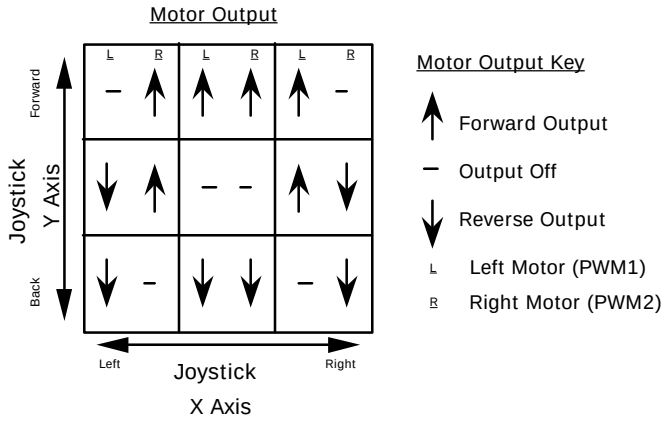

Figure 1.0: Coordinated Mode Motor Output vs. Joystick Position

Tip: The x and y-axis values for each joystick will reach maximum when the joystick handle is leaning toward the upper-left corner. The thumbwheels reach maximum when rotated fully forward.